REMARKS

Claims 1-28 were previously pending in this application. Claims 7-14 and 21-28 have been withdrawn pursuant to an election made by Applicant in a telephone conversation between the Examiner and David Lee (Reg. No. 38,222) on 12/01/2004. Claim 1-6 and 15-20 were elected for further prosecution herein. No claims are amended, added or canceled. Claims 1-6 and 15-20 remain pending.

35 U.S.C. § 102 Rejections

Claims 1-6 and 15-20

Claims 1-6 and 15-20 stand rejected under 35 U.S.C. 102(e) as being anticipated by U.S. Patent No. 5,748,900 issued to Scott, et al. (hereinafter "Scott"). Applicant respectfully traverses the rejection.

Scott describes a congestion control mechanism for a node of a modular computer network system. The described mechanism includes registers for maintaining a number of undelivered requests and unanswered requests for the node and registers for the maximum number of such undelivered requests and unanswered requests. Network congestion is regulated by throttling back or ratcheting up the allowed number of undelivered requests and unanswered requests based upon the level of busy and non-busy results of such requests and answers.

The mechanism described by Scott also alleviates congestion by implementing a set of large and small send and receive buffers that are

partitioned among virtual I/O channels. Each request virtual I/O channel may utilize congestion controls.

Generally, the subject patent application relates to flow control protocol for use with transport providers in networked communications. Systems and methods are presented that provide an adaptive flow control protocol that enable applications that are designed for a primary transport provider to use one of a plurality of alternative transport providers that offer some additional benefit, such as higher performance.

When using an alternative transport provider, the adaptive flow control protocol adjusts its data transfer strategy based on the behavior of the communicating applications. The protocol monitors the receiving application to determine when the receiving application posts buffers to receive the data and also detects the size of the buffers and then changes the way it directs data to be transferred between the applications based on when buffers were posted and buffer size.

Large data blocks are transferred using remote direct memory access (RDMA) transfers if the receiving application's receiving buffers are of sufficient size or through messages if the receiving buffers are not large enough.

Claim 1 recites a method to transfer data from a sending application to a receiving application in a computer environment. The method includes the steps of determining "if the receiving application posts a receive buffer exceeding a threshold size when posting a send for a pre-selected number of initial data blocks" and, if so, "transferring subsequent data having sizes greater than the threshold size using direct memory access read operations."

In addition, if the posted receive buffer exceeds the threshold size, claim 1 requires further steps of "detecting if the receiving application posts the receive buffer prior to posting the send" and, if so, "sending data and a RDMA receive advertisement in a message if the receiving application posts a send buffer having a size below the threshold size and one of data and RDMA Read information has not been received."

Scott does not disclose or anticipate each and every element recited in claim 1 as required to support a rejection under 35 USC 102. The excerpts from Scott cited in the Office Action deal with subject matter different than that included in claim 1.

For example, the first excerpt from Scott cited in the Office Action - column 2, line 51 - column 3, line 47 - provides a background discussion of peer-to-peer (P2P) messaging and direct memory accessing (DMA). This discussion includes reference to a configuration of data packets used in a reconfigurable ring-based peripheral channel network and specific operations related to DMA transfers.

The second excerpt from Scott cited in the Office Action - column 5, lines 20-51 - provides more detail of the congestion control mechanism. The mechanism "tracks the status of data requests for a given direct memory access (DMA) transfer." Column 5, lines 42-43. This tracking is accomplished by counting the number of outstanding undelivered requests and the number of outstanding unanswered requests. A "packet can only be sent if the client hasn't reached the maximum number of undelivered requests allowed on the

channel . . . and the client hasn't reached the maximum number of unanswered requests allowed on the channel. . . ." Column 5, lines 52-60.

The final excerpt from Scott that is cited in the Office Action - column 9, line 50 to column 10, line 10 - consists of claim 1 (from Scott) and deals with threshold numbers for number of requests allowed, number of busy echoes allowed, number of non-busy echoes allowed, and number of active requests. These threshold are compared against active requests, etc. to determine a level of network congestion and to throttling down or ratcheting up requests as the network allows.

Scott does not disclose or anticipate a number of elements recited in claim 1. For example, Scott does not disclose or anticipate detecting if a receiving application posts a receive buffer prior to posting a send. Also, Scott does not disclose or anticipate determining a method of transfer (i.e. messaging or DMA) according to a size of the receiving buffer.

Since one or more elements recited in claim 1 are not disclosed or anticipated by Scott, claim 1 is allowable over Scott. Accordingly, the rejection of claim 1 should be withdrawn.

Claim 2 - 6 depend from claim 1 and are allowable at least by virtue of that dependency. Therefore, the rejection of claims 2 - 6 should be withdrawn.

Claim 15 has been amended (for reasons other than patentability) and now recites one or more computer-readable media having executable instructions that, when executed, implement a method "to transfer data from a sending application to a receiving application in a computer environment using direct memory access read operations."

The method includes the steps of "detecting if the receiving application posts the receive buffer prior to posting the send" and, if so, "sending data and a RDMA receive advertisement in a message if the receiving application posts a send buffer having a size below the threshold size and one of data and RDMA Read information has not been received."

Scott does not disclose or anticipate the steps recited in claim 15. In particular, Scott does not describe determining if a receiving application posts a receive buffer before or after the receiving application posts a send. Furthermore, Scott does not disclose or anticipate selecting a method of transfer based upon a size of a send buffer posted by the receiving application.

Since 35 USC 102 requires that each and every element of a claim be disclosed or anticipated by a reference to sustain a rejection of the claim, claim 15 is allowable over the cited reference because the reference fails to disclose or anticipate the elements of claim 15.

Accordingly, the rejection of claim 15 should be withdrawn.

Claims 16 - 20 (which have been amended for reasons other than patentability) depend from claim 15 and are allowable at least by virtue of that dependency. Therefore, the rejection of claims 16 - 20 should be withdrawn.

CONCLUSION

Accordingly, in view of the above remarks it is submitted that the claims are patentably distinct over the prior art and that all the rejections to the claims have been overcome. Reconsideration and reexamination of the above Application is requested. Based on the foregoing, Applicant respectfully requests that the pending claims be allowed, and that a timely Notice of Allowance be issued in this case. If the Examiner believes, after this amendment, that the application is not in condition for allowance, the Examiner is requested to call the Applicant's attorney at the telephone number listed below.

If this response is not considered timely filed and if a request for an extension of time is otherwise absent, Applicant hereby requests any necessary extension of time. If there is a fee occasioned by this response, including an extension fee that is not covered by an enclosed check please charge any deficiency to Deposit Account Number 50-0463.

Respectfully submitted,

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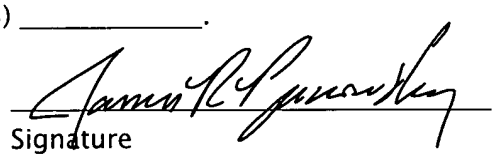
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